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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Per HENRIKSON

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EXAMINER

ABOAGYE, MICHAEL

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/711,786	Applicant(s) HENRIKSON, PER	
	Examiner MICHAEL ABOAGYE	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-34, 37 and 39-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-34, 37 and 39-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 17-34, 37 and 39-56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 17, 20, 37, 55 and 56 recite either the limitation “means for reproducing” or “reproduction means”. Said limitations lack clarity and therefore render the claims indefinite. It is noted that said “means for reproducing” or “reproduction means” can be misconstrued as duplicating, copying or replicating means. It is noted that, if said limitations are intended to convey an imaging device, then it must be distinctively claimed. For examination purposes this limitations would be interpreted to include known conventional imaging devices.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 17-34, 37 and 39-56 insofar as definite (in view of the 35 U.S.C. 112, second paragraph rejections) are rejected under 35 U.S.C. 103(a) as being

unpatentable over Kovacevic et al. (US Patent No. 5,481,085) in view of Sheaffer et al. (US Patent No. 6,084,205).

Kovacevic et al. teaches an arrangement (10, figure 1) and a method for a real time control of a welding operation. Said arrangement and method comprising: providing a weld head (see, the arc welding head shown in figure 1); a device (22, figure 1) which includes an imaging means in a form of a high speed shutter camera for monitoring a welding area of an object; wherein said camera functions by detecting reflected radiation or light from the weld pool (see, the weld pool S, figure 1, and column 5, lines 49-67); and illuminating means (14, figure 1) provided a separate unit by the weld area, said illuminating means including a diffuser (16, figure 1) configured to generate ultraviolet light or radiation of predetermined wavelength (column 3, line 62- column 4, line 10 and column 5, lines 20-67); providing a control means (24, figure 1) in a form of a micro processor for processing or analyzing the images from the imaging devices and also for controlling the welding parameters in order to control depth of weld penetration and weld pool or weld area dimensions (see, column 6, line 46- column 7, line 30).

Kovacevic et al. fail to teach providing a band –pass filter arranged in front of or in the imaging device.

However, Sheaffer et al. teaches a device including and computer program and a method for monitoring welding operation comprising: a camera (125, figure 1) for imaging the welding area, a band filter (120, figure 1) arranged in front of the imaging device; said filter being a short wavelength pass filter configured to filter out infrared radiation but only to transmit to the imaging device radiations in about 300 to 550 nm

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range (column 3 line 42 - column 4 line 27). Note the wavelength of the emitted light or the radiation from the weld pool disclosed by Sheaffer et al. falls in the ultraviolet range. Note also that the range of the wavelength disclosed by Sheaffer et al. encompasses all the wavelengths, including those defined in terms of band filter width, FWMH, set forth in the claims. Claims 21-30 and 41-50 are therefore met by Sheaffer et al. Sheaffer et al. also teaches a control system (145, figure 1) operable in a dynamic feedback mode that utilizes a signal or information from the imaging device to automatically adjust or control the welding parameters including the weld head position, welding current to control the weld penetration and the geometry of the melt or the weld area to achieve high quality weld (Sheaffer et al., abstract, column 4, lines 28-63; and column 5, lines 5-13). See also Sheaffer et al. claims 1-4 and 6-10.

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the invention of Kovacevic et al. to provide a band-pass filter with the imaging system as taught by Sheaffer et al. to filter out infrared radiations out from the radiations emitted from the weld pool and only to transmit the wavelengths corresponding to the ultraviolet portion so that the weld pool boundary can be differentiated effectively which will enable the weld parameters to be measured effectively, and the control of the welding parameters be precise and consequently a high quality weld be achieved (Sheaffer et al., column 2, line 36- column 3, line 12).

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Justice et al. (US 4225771), Maram et al. (US 4776911), Lillquist (US 4484059) and Chou et al. (US 6060685) are also cited in PTO-892.

Response to Arguments

6. The examiner acknowledges the applicants' amendment received by USPTO on October 03, 2007. Claims 17-34, 37 and 39-56 are currently under consideration in the application.

7. Applicant's arguments with respect to claims 17-34, 37 and 39-56 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL ABOAGYE whose telephone number is (571)272-8165. The examiner can normally be reached on Mon - Fri 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Aboagye/
Assistant Examiner,
Art Unit 1793

/Kevin P. Kerns/
Primary Examiner, Art Unit 1793